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Report to the Secretary of the Air Force

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MILITARY AIRLIFT

Improving Management of Aircraft Loading Operations

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United States
General Accounting Office
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National Security and
International Affairs Division

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October 23, 1986

The Honorable Edward C. Aldridge, Jr.
The Secretary of the Air Force

Dear Mr. Secretary:

We evaluated whether aerial ports could effectively support wartime airlift operations. This report discusses improvements needed to reduce costs and improve aircraft loading operations. It contains recommendations to you on pages 18, 22, and 26.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen of the above-mentioned committees and to the Chairmen of the House and Senate Committees on Armed Services. Copies are also being sent to the Director, Office of Management and Budget, and other interested parties.

Sincerely yours,

Frank C Conahan

Frank C. Conahan
Assistant Comptroller General

Executive Summary

Purpose

Equipment used to load cargo on aircraft is critical to the mission effectiveness of the military airlift system. GAO evaluated whether existing equipment could effectively support wartime airlift operations. This report discusses

- reduced airlift capability caused by unreliable equipment used with wide-body aircraft,
- the potential for using commercially owned equipment in lieu of procurement to meet wartime requirements, and
- the lack of spare parts to maintain equipment during wartime.

Background

The Military Airlift Command (MAC) provides aircraft, personnel, and equipment for airlifting combat troops and supplies to warzones. The Air Force purchases, operates, and maintains materials handling equipment to load aircraft. Equipment availability and reliability are vital to meeting the airlift mission.

The Air Force plans to purchase $219 million in equipment over the next 5 years to meet current and projected shortages and to replace over-age equipment.

MAC also plans to augment military airlift capability in wartime by using aircraft and equipment owned by commercial carriers who participate in the Civil Reserve Air Fleet (CRAF) program.

Results in Brief

MAC's ability to support wartime airlift operations is reduced by unreliable elevator loaders to support wide-body aircraft and the lack of spare parts to sustain equipment operations.

The Air Force's procurement requirements may be reduced by specifically tasking equipment owned by CRAF carriers in MAC's contingency planning.

Principal Findings

Unreliable Cargo Loaders

Unreliable cargo loaders have degraded MAC's capability. Due to severe operational and maintenance problems, the loaders cannot be used to support wide-body aircraft, which will provide over one quarter of

MAC's wartime cargo airlift capability. Acceptance testing did not disclose the extensive problems later found after delivery to MAC units. MAC removed the loaders from service in December 1985, thus reducing its wartime wide-body loading capability. It is now determining what will be required to return them to service. MAC also plans to buy additional loaders.

Insufficient Spare Parts Kits

MAC cannot sustain wartime utilization of equipment because the spare parts kits to support maintenance requirements are either not available or contain the wrong components. MAC did not review the status of kit components for 7 years; as a result, the kits contain components for equipment no longer used. While MAC is taking action to update kit components, the kits will not contain parts for elevator-type cargo loaders. Further, kits have not been established for equipment stored as war reserve.

Alternatives to Procurement

Cargo loaders owned by CRAF carriers provide an alternative to the government's buying new equipment to meet wartime requirements to support wide-body aircraft. However, MAC's policy is to use CRAF equipment only when its own resources are unavailable. As a result, the Air Force has bought loaders to support CRAF and military wide-body aircraft in a contingency, even though CRAF carriers have equipment to support these aircraft. If MAC changes its policy, it may reduce future procurement requirements. It could also reduce the impact on war reserves created by taking unreliable loaders out of service.

Recommendations

GAO recommends that the Secretary of the Air Force direct MAC to

- identify materials handling equipment that falls below acceptable performance criteria, determine the causes for the reduced performance, and take timely corrective action to bring the equipment up to acceptable performance standards;
- establish spare parts kits for war reserve equipment and elevator-type loaders;
- refine its procurement objectives and determine the reduction in war reserve requirements achievable by considering CRAF carrier equipment.

GAO also made a number of other recommendations, including a recommendation that the Secretary of the Air Force defer procurement of

additional elevator-type loaders until MAC refines its procurement objectives.

Agency Comments

With one exception, DOD concurred or partially concurred with the conclusions and recommendations in a draft of GAO's report. DOD agreed to take early implementing actions to improve both the viability and management oversight of the program. DOD did not agree with the need to develop reliability statistics for each piece of materials handling equipment. DOD stated that its existing information systems were adequate to identify unreliable equipment and serve as the basis for corrective action. GAO agreed and modified its recommendation to recognize the use of existing management information systems for operational monitoring.

DOD's comments are summarized at the end of the appropriate chapters and included in their entirety in appendix II.

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Abbreviations

BLSS	base level self-sufficiency spares
CRAF	Civil Reserve Air Fleet
DCASMA	Defense Contract Administration Services Management Area
GAO	General Accounting Office
MAC	Military Airlift Command
MHE	materials handling equipment
WRSK	war readiness spares kit

Introduction

The ability of the United States to rapidly deliver forces and material to potential areas of conflict is critical to influencing its outcome. Airlift plays an important role in rapidly moving and resupplying forces overseas.

The Military Airlift Command (MAC), under the direction of the Secretary of the Air Force, manages peacetime airlift operations within the Department of Defense. MAC also develops and executes airlift doctrine, strategy, and operational plans for wartime mobilization under the direction of the Joint Chiefs of Staff which includes the overseas movement of combat units and equipment and unit resupply.

The military airlift system is made up of both military aircraft and commercially owned and operated aircraft committed to the Civil Reserve Air Fleet (CRAF) program. These aircraft and their supporting worldwide aerial ports, enroute maintenance systems, command and control systems, and personnel comprise the military's airlift system.

Aerial ports are airfields selected for the sustained movement of military air traffic. Their readiness depends on having reliable materials handling equipment (MHE) to load and unload aircraft and on personnel to operate and maintain the equipment. Equipment shortages prevent the timely processing of cargo and limit the success of airlift operations.

Equipment used by aerial ports includes forklifts, 25,000- and 40,000-pound capacity loaders, elevator loaders, and lower lobe (compartment) loaders. The 25,000- and 40,000-pound loaders move and lift pallets from loading areas to the cargo decks of narrow-body aircraft. They can raise cargo up to 13 feet. Elevator loaders, positioned at the aircraft, reach heights of up to 18 feet and service the higher main decks of wide-body aircraft. Lower lobe loaders service the lower compartments of wide-body aircraft. See appendix I for photographs of MHE.

Materials Handling Equipment Shortfalls

Air Force-wide MHE requirements are reviewed annually. In March 1985, the Air Force identified a wartime requirement for 3,965 MHE units, which included 2,428 units for MAC, its largest user. As of December 1985, MAC had 1,554 units available. To eliminate an Air Force-wide shortfall and replace over-age equipment, the Air Force programmed $219 million for fiscal years 1986-91.

Responsibilities for Managing Equipment

Each major Air Force command, including MAC, manages its own MHE resources. This includes determining requirements, controlling distribution, and monitoring reliability. After MHE procurement requirements are funded by Air Force Headquarters, procurement of the equipment and the initial supply of spare parts is made by Warner Robins Air Logistics Center. The Center prepares the purchase description, specifications, and acceptance test requirements and awards the contracts. It also reviews test results prior to approving full production and determines the causes and responsibility for reliability problems.

MAC is responsible for managing the CRAF program.[1] It contracts for airlift services and supporting resources, such as MHE, to meet contingency requirements.

Objectives, Scope, and Methodology

The objective of our review was to ascertain if MHE used by aerial ports could effectively support wartime airlift operations. Early in our review, we identified and focused on three questions.

1. Is airlift mission capability provided by wide-body aircraft being adequately supported by available elevator loaders?

2. Can CRAF carriers' MHE provide a cost-effective alternative to purchasing new equipment?

3. Are spare parts adequate to meet MHE wartime requirements?

We specifically examined elevator loaders purchased from the Wilson Machine Company because of the extensive problems the Air Force was experiencing and because of the importance of these loaders to wartime airlift operations. For these elevator loaders, we reviewed the procedures to acquire and test them prior to acceptance; obtained users' views on equipment problems and their impact on airlift operations; analyzed MAC's management information system; and discussed our observations with cognizant Air Force and contractor personnel.

To evaluate the potential use of MHE owned by CRAF carriers to meet Air Force wartime requirements, we ascertained whether CRAF carriers had sufficient MHE to meet MAC's operational requirements and whether such

[1]For a complete description of the CRAF program, see Emergency Airlift: Responsiveness of the Civil Reserve Air Fleet Can Be Improved, GAO/NSIAD-86-47, Mar. 1986.

MHE could be provided to MAC in a contingency. These matters were discussed with officials from Air Force Headquarters, MAC, and CRAF carriers.

To determine if spare parts kits could be used on MHE models at aerial ports, we analyzed the contents of spare parts kits at three aerial ports and reviewed MAC's plans for changing its kit support concept.

We performed work at

- Air Force Headquarters, Washington, D.C.;
- MAC Headquarters, Scott Air Force Base, Illinois;
- 21st Air Force Headquarters and 438th Military Airlift Wing, McGuire Air Force Base, New Jersey;
- 22nd Air Force Headquarters, Travis Air Force Base, California;
- Warner Robins Air Logistics Center, Robins Air Force Base, Georgia;
- 436th Military Airlift Wing, Dover Air Force Base, Delaware;
- Wilson Machine Company, Hutchinson, Kansas;
- Defense Contract Administration Service Management Area, Wichita, Kansas; and
- selected commercial airlines under contract with MAC to provide airlift services.

We made our review from April 1985 to August 1986 in accordance with generally accepted government auditing standards. A draft of this report was provided the Wilson Machine Company for its review, and comments were not received from the Company.

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Unreliable Elevator Loaders Reduce Airlift Capability

The unreliability of 59 elevator loaders purchased for about $4.5 million from the Wilson Machine Company significantly reduces MAC's capability to load wide-body aircraft. Wide-body aircraft, such as the Boeing 747 and the McDonnell Douglas DC-10 and KC-10, provide over one quarter of MAC's wartime cargo airlift capability. They require elevator loaders to service their main decks, which are higher than the decks of other cargo aircraft. The Wilson loaders account for over half of MAC's wide-body elevator loader capability. After experiencing extensive problems for over a year, all 59 Wilson loaders were taken out of service in December 1985.

The absence of operational reliability testing of the loaders was a major factor in the failure to detect the problems, which were not discovered until the equipment was delivered to users. Further, inadequate storage procedures and the lack of spare parts reduced loader availability.

Requirement for Elevator Loaders

In January 1982, the Air Force requested Warner Robins Air Logistics Center to purchase elevator loaders. The requirement was based on a shortfall in elevator loaders and on MAC's view that its existing loaders (made by Cochran Airport Systems) were nearing the end of their useful life. The Wilson Machine Company was the low bidder on an advertised solicitation and was awarded a $2.7 million contract in June 1982 for 39 elevator loaders. In April 1983, Warner Robins exercised a contract option clause and purchased an additional 20 Wilson loaders, increasing the contract cost to almost $4.5 million. Thirty-six Wilson loaders were provided to MAC, with the remainder assigned to other major commands.

Operational Impact of Unreliable Loaders

Since entering MAC's inventory in January 1984, the Wilson elevator loaders have continuously had operational, safety, and maintenance problems. In-commission rates have been far below the 90-percent standard for full combat readiness, and malfunctions with the loaders are causing severe problems in MAC's ability to meet even its peacetime requirements. The availability rate for 12 loaders assigned to the 22nd Air Force Pacific bases, for example, has been as low as zero, and not one loader has worked satisfactorily for sustained periods.

In a May 1985 memorandum to MAC, a 22nd Air Force official stated that numerous problems with the Wilson loaders have significantly limited the command's ability to support day-to-day operations at a time when mission requirements are increasing.

The 21st Air Force had similar problems: its 12 Wilson loaders were available only 17 percent of the time from July through October 1985. Also, 30 of 50 attempts (60 percent) to use the loaders were aborted because they became inoperable. Personnel at the 21st Air Force told us that loader failures have required them to fly in Cochran loaders to support aircraft when the Wilson loaders were inoperable.

The 21st Air Force advised MAC in October 1985 that not only have Wilson loaders failed to meet minimum requirements at its aerial ports, but they have failed to support aircraft at other locations. Further, if the problems remain unresolved, the 21st Air Force said it will eventually be unable to adequately support its wide-body aircraft mission requirements.

The types of problems experienced by the two commands include

- bent columns used to raise and lower cargo,
- short circuiting of control boxes,
- rubber tires separating from the wheels, and
- platform switch failures.

Loaders Malfunction During Special Test

In November 1985, MAC personnel, with Wilson technicians observing, assembled and tested nine unused Wilson loaders, which were stored at an Air Force base for use in a contingency. None of these loaders performed satisfactorily. Severe hydraulic system failures resulted in uncontrollable loader operations. One loader would have hit the motor pool fence and dispatch office had it not become stuck in the mud. Another ran away when it was being moved and became stuck after hitting a concrete curb. Otherwise, it would have rammed a fence and parked vehicles behind the fence.

These tests also showed that the Wilson loaders could not lift the 40,000 pounds required by the contract even though the loaders had passed acceptance tests conducted at the factory. In December 1985 Warner Robins directed MAC and the other major commands to take all Wilson loaders out of service until the problems could be resolved.

Effective Reliability Testing Could Have Prevented Operational Problems

Acceptance testing of the Wilson loader did not disclose the major defects found after the loader was placed in service. Acceptance testing was minimal because the loader was considered a commercially available item even though it was never produced by the contractor.

Wilson's Qualifications to Produce a Commercially Available Loader

Prior to initiating procurement action, Air Force Headquarters directed Warner Robins Air Logistics Center to buy a commercially available elevator loader. According to a Warner Robins memorandum, this meant that the company that was to produce the loader should have built and delivered the item previously; thus, the item would supposedly be completely design free and need meet only minimal performance testing. Also, no operational testing would be required to determine the equipment's operating reliability over a specified period of time.

The Defense Contract Administration Services Management Area (DCASMA) conducted a pre-award survey in April 1982. The DCASMA survey team members rated Wilson fully satisfactory; however, the two Warner Robins representatives on the survey team rated the bidder unsatisfactory on technical capability and ability to meet the required delivery schedule.

Subsequently, a Warner Robins contracting official advised DCASMA not to recommend an award to Wilson because

- the specification called for a commercial item that the company had previously built and delivered, and Wilson had not built a commercial elevator loader capable of lifting 40,000 pounds; and
- Wilson's loader design was incomplete when the pre-award survey was conducted.

Warner Robins further advised DCASMA that Wilson was not taking the safeguards most companies take to ensure sound design and workable assembly parts. Further, Warner Robins was also concerned that the Air Force would not have enough loaders to support wide-body aircraft operations if Wilson had a problem delivering the loader.

The DCASMA survey board acknowledged Warner Robins' position; however, it still rated Wilson satisfactory and recommended that it be awarded the contract because (1) the item was not considered complex compared with other items Wilson had previously produced, (2) the

specifications did not require the bidder to currently have the item in production and on the commercial market, and (3) while it was recognized that the contractor did not have a proven design, this did not necessarily mean that it would not be successful.

The Warner Robins contracting officer awarded the contract to Wilson based on the contractor's low bid and DCASMA's conclusion that the contractor was qualified.

Acceptance Testing Did Not Disclose Defects

Acceptance testing under the contract required the Air Force to approve testing of the first unit produced and the contractor to test each subsequent unit. These tests were designed only to see if the loaders functioned when assembled. The tests were not designed to test the loaders' ability to function under sustained operating conditions. The tests disclosed none of the problems later found when MAC began using the loader. They did, however, disclose serious deficiencies in air transportability, assembly, and safety. Wilson reworked the loader, and the final test report indicated that all deficiencies were corrected.

Need for Operational Testing

MAC officials believe that had operational testing been performed on the loaders prior to granting production approval, it would have disclosed the extensive problems found after the loaders were placed in service. Corrective action could then have been taken before the problems had a major effect on airlift capability. Such testing involves determining if the equipment would work for a sustained period of time under actual operational conditions.

Equipment Testing Policy Changed

In September 1985, Warner Robins changed its test policy to require operational testing for selected items of equipment for a specified period of time (e.g., 60 days) to determine whether the items can meet reliability criteria. This applies regardless of whether the item is bought as commercially available or newly designed. The results of operational testing are to be included in a manufacturer's first article test report, which is used in granting full production approval.

Corrective Actions in Process

Warner Robins personnel advised us that Wilson has issued various service bulletins to correct some of its loader problems and has replaced defective parts under warranty. Further, the contractor will be asked to agree to two engineering changes at no cost to the government to correct

other problems. There are also six other proposed engineering changes which should further improve the loaders' performance. Moreover, because new problems were noted during the recent test (see p. 13), the need for further engineering changes was being evaluated by the contractor.

Other Factors Contributed to Problems With the Loaders

In addition to insufficient testing, shortcomings in storage of elevator loaders and delays in ordering spare parts also reduced the operational availability of the Wilson loaders.

Shortcomings in Storage

According to a MAC test report, the inspection of the nine war reserve loaders tested revealed shortcomings in storage procedures. These loaders had been stored for up to 16 months. Water had seeped into the hydraulic and power systems and had to be drained before the tests could be performed. The following storage-related problems affected all nine loaders.

- Engine crankcases had varying degrees of water contamination.
- Fuel tanks were contaminated with water, and the fuel was gummed due to age.
- The batteries were unserviceable.
- The assembly pins had rust buildup.
- The trim cylinder air vents had not been sealed, causing corrosion.

Delay in Ordering Spare Parts

In November 1985, Wilson advised MAC that lack of spare parts is a principal cause of loader downtime. It said that initial spare parts were ordered 7 months after initial loader deliveries. Further, 43 of the 233 demands for spare parts were not satisfied because the items were not under contract when status was reviewed by the contractor in November 1985, 22 months after initial loader deliveries. Warner Robins officials, however, attribute the delay in ordering parts to the contractor's delay in providing the technical data needed to order the parts.

MAC Needs to More Quickly Focus on MHE Experiencing Problems

Each month MAC receives data on the performance of MHE from each aerial port and mobile aerial port squadron. The data show the average monthly MHE availability at each port and squadron. For example, during fiscal year 1985, 20 MAC aerial port units reported an average in-commission rate for their MHE of 88 percent, with average unit ranges from 74 to 95 percent. Although MAC receives detail data, it does not normally summarize these data by specific type of equipment.

Summary statistics by port or squadron can be misleading by not disclosing problems with specific types of equipment. The data did not indicate, for example, the extensive problems being experienced with the Wilson loaders.

When MAC began tracking in-commission rates for the Wilson loaders in September 1985, after material deficiency reports disclosed that the loaders were having problems, they found that the loader was in-commission only 43 percent of the time during the 4 months before it was taken out of service.

MAC personnel who monitor equipment reliability depend on material deficiency reports from users to identify the causes of specific failures. While numerous reports on a piece of equipment may indicate a widespread problem, the reports do not show how long the equipment was out of service. Further, MAC personnel told us that users sometimes neglect to prepare material deficiency reports; therefore, these reports may not disclose the full extent of operational problems.

Having information on reliability by type of equipment would have been useful to MAC in isolating problem equipment, determining the operational impact of these problems, and identifying needed corrective actions. For example, in May 1985, 21st Air Force representatives discussed with MAC the possibility of leasing elevator loaders. However, because they lacked sufficient evidence that current assets were inadequate, they were unable to justify the need for leasing loaders. The 21st Air Force had to request aerial ports under its command to perform a special 60-day operational evaluation of Wilson elevator loaders and to provide data on reliability.

In commenting on a draft of this report, DOD stated that, as a result of the Wilson loader, MAC had expanded its vehicle in-commission reporting requirement to include a category of "problem vehicles." DOD stated that this data identifies vehicles by type and hours out-of-commission and facilitates timely and thorough trend analysis.

Conclusions

The unreliability of the Wilson elevator loaders and their withdrawal from service have significantly reduced the Air Force's ability to support wartime operations of wide-body aircraft. These aircraft comprise 28 percent of wartime cargo airlift capability. The Wilson loaders represent over half of MAC's wide-body elevator loader capability.

Operational performance of the loaders' reliability was not thoroughly evaluated during acceptance testing because they had been purchased as a commercially available item with minimal testing. If effective operational testing had been performed, it likely would have detected the major defects. Further, delay in purchasing spare parts apparently contributed to the loaders' downtime. Moreover, war reserve loaders were not stored properly.

The change in test policy, requiring operational testing of selected MHE before contract acceptance, is a positive step in preventing similar situations from recurring. MAC needs to more quickly focus on MHE experiencing problems.

Recommendations

We recommend that the Secretary of the Air Force direct the Commander, MAC, to

- identify equipment that falls below acceptable performance criteria, determine the causes for the reduced performance, and take timely corrective action needed to bring the equipment up to acceptable performance standards and
- ascertain the extent to which the storage problems experienced with the Wilson loaders may be occurring with other MHE stored as war reserve.

Agency Comments and Our Evaluation

DOD agreed that the unreliability of the Wilson elevator loaders significantly reduces its capacity to perform wartime operations with wide-body aircraft. DOD added that it recently reexamined its wartime elevator loader requirement and established a requirement of 114. It has 101 on hand, which includes the Wilson loaders. Consequently, the wartime shortfall is exacerbated by the unreliability and out-of-service status of the Wilson loaders.

DOD agreed that management attention should be focused on equipment experiencing the type of systematic problems found with the Wilson

loader. However, it believed its existing management systems are adequate to identify unreliable equipment and serve as the basis for corrective action. DOD stated that, as a result of the problems with the Wilson loader, MAC has expanded its vehicle in-commission reporting requirement to include a category of "problem vehicle." This data identifies vehicles by type and hours out-of-commission and facilitates timely and thorough trend analyses.

It is not our intention to recommend development of new systems where existing management systems can serve or be modified to serve management needs. While we continue to believe that increased attention needs to be devoted to identifying equipment that fall below acceptable standards and taking corrective action, we have modified our recommendation to recognize DOD's action to improve its automated system's ability to identify problem vehicles. We are now recommending that the system be used to identify and correct problems in a timely manner. Our draft report recommended that MAC develop reliability statistics to monitor the operational status of each type of materials handling equipment.

Our draft report recommended that MAC evaluate existing procedures, practices, and oversight for storing war reserve MHE in light of the storage problems with the Wilson loaders. DOD stated that its procedures for storing vehicles were adequate and that there was no need to evaluate existing procedures, practices, and oversight. However, DOD added that, in the case of the Wilson loader, the normal storage procedures were not employed; i.e., loaders were shipped from the factory unassembled and temporarily stored in the original shipping containers. In our view, the facts that the normal storage procedures were not employed for such an important piece of equipment and that this equipment did not function properly when assembled and tested suggest a weakness in internal control procedures and a need for MAC to review the status of other MHE stored as war reserve to satisfy itself that exceptions were not made for other equipment. We have modified our recommendation to reflect this view.

Loaders Available From Commercial Air Carriers May Reduce Military Procurement

Cargo loaders owned by CRAF carriers offer MAC an alternative to buying new equipment. By using these loaders, MAC would be more able to meet wartime requirements and reduce the shortages in war reserves caused by taking the Wilson loaders out of service. MAC regulations provide for the use of CRAF loaders only in contingency situations when its own resources are not available. Thus, the Air Force has purchased elevator loaders to support wide-body aircraft and plans to purchase additional loaders for this purpose.

MAC Regulations Do Not Require Tasking of CRAF Equipment in War Plans

During a contingency, MAC regulations allow MHE to be acquired from commercial sources only when government-owned MHE is unavailable or inadequate. As a result, MAC's war plans do not include using CRAF carrier-owned MHE to support specific locations. Instead, a MAC crisis action team is to coordinate the use of CRAF resources to cover MHE shortages. Unlike CRAF agreements for aircraft, where the carriers commit specific aircraft to MAC, similar agreements are not made for CRAF carrier-owned MHE. If MAC's crisis action team determines that CRAF MHE is needed and available, it can be acquired from a CRAF carrier under the CRAF contract.

MAC regulations on using CRAF MHE have a direct impact on its procurement requirements. When wartime requirements are compared with available assets and procurement requirements are established, only Air Force-owned MHE is considered.

The Air Force estimates that its requirements total 114 elevator loaders, 56 of which are needed for war reserve. Air Force has 101 elevator loaders, and it plans to purchase an additional 9 elevator loaders and 6 main deck loaders, costing $2.2 million. The Wilson loaders, included in the 101 figure above, are being tested to determine what will be required to return them to service.

CRAF Carriers Have Loaders to Support Wide-Body Aircraft in a Contingency

Ten CRAF carriers have contracts with MAC to provide 63 long-range cargo aircraft in a national emergency. Forty-four of these 63 are wide-body aircraft. As of June 1985, CRAF carriers had 111 elevator loaders to support their wide-body aircraft.

Officials from five CRAF carriers having elevator loaders believe it is realistic for the Air Force to plan to use commercial cargo loaders to meet its contingency requirements. They said that some or all of their cargo loaders could be made available to MAC during an emergency, including needed operations and maintenance support. For example,

officials of a major cargo air carrier, which has 17 B-747 wide-body cargo aircraft committed to CRAF, told us they would not need most of their loaders for commercial operations when the CRAF program is activated.

MAC Position on Using CRAF MHE

We asked MAC officials why procurement requirements and war plans do not specifically task CRAF elevator loaders to meet contingency requirements, since numerous elevator loaders are available throughout the airline industry. MAC officials advised us that the location of these assets and its inability to put them into service expeditiously limits their viability.

We found, however, that CRAF elevator loaders are positioned near aerial ports having wartime requirements to support wide-body aircraft and are transportable to these ports by either truck or aircraft. The following table compares elevator loaders at 11 CRAF carrier U.S. locations in June 1985, with elevator loader requirements at an Air Force base within driving distance.

Table 3.1: Location of CRAF Elevator Loaders in U.S. Versus Air Force Requirements

Locations to be supported by Air Force		CRAF carrier		Est. distance (Driving miles)
Location	Number of loaders required	Location	Number of loaders	
Elmendorf AFB	1	Anchorage	3	Within 50
Charleston AFB	4	Atlanta	1	Within 325
		Miami	3	Within 600
McGuire AFB	4	New York	15	Within 75
		Newark	2	Within 75
Dover AFB	6	New York	15	Within 200
		Newark	2	Within 175
Norton AFB	2	Los Angeles	8	Within 75
		Ontario	2	Within 50
Fort Campbell	1	Memphis	3	Within 200
Travis AFB	2	San Francisco	3	Within 75
McChord AFB	2	Seattle	3	Within 75
Hickam Field	1	Honolulu	2	collocated

Conclusions

We believe that MAC's war plans should specifically provide for using cargo loaders owned by CRAF carriers. This should reduce the need for additional procurement of elevator loaders; it could also reduce the

impact of the shortages created by taking the Wilson loaders out of service.

Although Air Force regulations treat CRAF carrier-owned equipment as a secondary alternative to be used when government-owned equipment is not available, we believe the policy should be revised to consider CRAF equipment as a primary source. War plans already task CRAF aircraft, and specific commitments for these aircraft are obtained from CRAF carriers. If MAC applied this concept to the CRAF equipment which supports these aircraft, it would be assured that this MHE would be committed for contingency use. Numerous commercially owned loaders are already positioned near and are transportable by truck or aircraft to the military locations having wartime requirements. If specific equipment were committed for MAC use, contingency planners could arrange for moving the equipment to the appropriate locations.

MAC agreed to further explore the use of CRAF carrier equipment to satisfy its current shortfalls and acknowledged that it may be able to refine its procurement requirements.

Recommendations

We recommend that the Secretary of the Air Force revise Air Force regulations to require consideration of CRAF-owned elevator loaders in formulating operational war plans and determining procurement requirements.

We also recommend that the Secretary of the Air Force direct the Commander, MAC, to

- develop and maintain an updated CRAF elevator loader inventory,
- obtain contractual commitments from CRAF carriers for use of elevator loaders during a contingency, and
- refine its procurement objectives and determine the reduction in war reserve requirements achievable by considering CRAF carrier-owned elevator loaders.

We further recommend that the Secretary of the Air Force defer procurement of additional elevator loaders until MAC refines its procurement objectives.

Agency Comments and Our Evaluation

DOD agreed with the need to fully consider the availability of CRAF carrier-owned MHE in contingency planning. It stated that the availability and commitment of CRAF carrier-owned MHE will be an agenda topic at a CRAF Mobilization Representatives Conference in September 1986. DOD added that subsequent deliberations with the commercial carriers will develop this topic and that war plans will be accordingly adjusted.

DOD concurred with our recommendations to develop and maintain an updated CRAF elevator loader inventory, to obtain contractual commitments from CRAF carriers for use of elevator loaders during a contingency, and to refine its procurement objectives and determine the reduction in war reserves achievable. However, DOD noted several limitations in using CRAF carrier-owned MHE to meet its requirements. For example, dedication of such equipment to DOD is unlikely in a scenario where deployment requirements build over time because commercial carriers will need to maintain capability to satisfy demands for their non-military customers.

DOD stated that prior to publication of our draft report, the Air Force had authorized MAC to procure additional elevator loaders to alleviate the serious shortfall caused by the failure of the Wilson loaders. However, it agreed that any future procurement of elevator loaders will be made in light of the availability of CRAF carrier-owned MHE and other pertinent factors reflected in our report.

Lack of Spare Parts Reduces Equipment Sustainability During Wartime

MAC cannot sustain wartime use of its MHE because the spare parts kits needed for repair are not available or are outdated. MAC waited 7 years to review kit status. During this time, it introduced new equipment that is no longer compatible with existing spare parts kits.

MAC estimates that 35 percent of its cargo loading equipment is over-age and its increased use during wartime could result in significant breakdowns. Currently, waiting for spare parts for repair causes half of MHE downtime. While MAC is acting to obtain spare parts kits for some equipment, it is not establishing kits for elevator loaders or for MHE stored as war reserves.

Impact of Spare Parts on MHE Availability

Spare parts kits are designed to support the increased maintenance expected from higher equipment utilization and failure rates during wartime. They are also needed because MHE is sometimes deployed to locations that do not stock spare parts. The value of the needed kit inventory is relatively low—about $1 million—and the lack of spare parts could reduce the capability to sustain aircraft loading operations during a contingency.

There are two categories of MHE spare parts kits. Base level self-sufficiency spares (BLSS) kits are used at aerial ports where MHE is assigned and contain the parts to support the first 30 days of wartime operations. War readiness spares kits (WRSK) contain 30 days' wartime replenishment when MHE is deployed to another location. Air Force regulations require an annual review of kits to ensure they contain current components.

If kits are not available, MAC can take other, sometimes more costly, actions when MHE needs repair, such as air shipment of replacement equipment or spare parts from another base or taking parts from unserviceable equipment.

Kits Contain Outdated Components

The WRSK and BLSS kits stored at aerial ports contain outdated components that cannot support their equipment. For example, the kits contain gasoline engine components even though the current equipment has diesel engines. Further, the kits at three aerial ports we visited did not contain parts for most of the ports' MHE, such as Allis Chalmers forklifts and Emerson Electric loading trucks. Officials from MAC units advised us that many kit parts can no longer be used to repair their equipment. Kits

are outdated because MAC waited 7 years to review kit status. MAC officials could not explain why kit status was given so little attention for so long.

MAC Plans to Establish Some Kits

After reviewing WRSKs in March 1985, MAC defined a new support concept, which tailors kits to specific equipment makes and models at each aerial port. Although MAC had difficulty convincing the Air Force Logistics Command to approve the new concept, approval was granted in November 1985, and MAC is establishing WRSK authorizations for MHE at six major aerial ports. MAC was in the process of defining new BLSS kit components when we completed our review.

WRSK Not Authorized for War Reserve Equipment

In the mid-1970s, the six major aerial ports in the United States were responsible for maintaining MHE and spare parts kits and deploying them when needed. Subsequently, the Air Force changed its positioning concept and decided to pre-position MHE as close as possible to their point of intended wartime use. However, while specific authorizations for war reserve equipment were established at designated storing bases in addition to the six aerial ports, MAC did not authorize WRSKs for this equipment.

MAC officials responsible for establishing WRSK authorizations were not aware of the change in the positioning concept and, as a result, did not authorize kits for war reserve equipment, even though there is a significant amount of MHE stored in war reserve at various bases.

In April 1985, the 21st Air Force, which is responsible for airlift to Europe, Africa, and South America, likewise advised MAC headquarters that its war reserve equipment had no WRSKs and expressed concern that the peacetime supply pipeline would not be able to cope with the expected higher demand for parts during wartime. MAC acknowledged the problem and notified the 21st Air Force that it was establishing WRSK authorizations.

Kits Not Authorized for Some Elevator Loaders

Elevator loaders used by MAC were made by Wilson Machine Company or Cochran Airport Systems. Because the 59 Wilson loaders have been taken out of service, they will not require WRSKs until they become operational again. However, there are Cochran loaders in service at 18 locations, which are deployed to support peacetime airlift exercises. In 1983,

MAC authorized eight bases that have Cochran loaders to make up spare parts kits to support peacetime loader deployments.

We requested MAC officials to determine whether the kits were available at the eight bases. As of January 1986, four bases that had these loaders replied. Two bases reported their kit was full; one base reported that two kits had been assembled but were missing after having been deployed; and one base replied that kits were not established. Even if the kits were full, they were designed to meet peacetime needs and would not be sufficient to meet increased wartime demands.

MAC's Plans to Establish Needed Kits Are Vague

MAC officials plan to develop WRSK authorizations for war reserve MHE and elevator loaders, but have not established milestones for this effort. Establishing WRSKs requires MAC to identify the makes and models of equipment at each base since inventory records do not show this information. MAC officials believe it is better to support requirements for several equipment types and later extend the concept to the full range of MHE. MAC is concentrating its initial efforts on establishing WRSKs for 10,000-pound capacity forklifts, 25,000-pound capacity loaders, and 40,000-pound capacity transporter loaders.

Conclusions

For many years, MHE spare parts kits did not receive adequate attention by MAC. As a result, kit components are outdated and cannot sustain wartime equipment repair. Although MAC is establishing new kits at major aerial ports, it is delaying establishing kits for some war-reserve MHE or elevator loaders. Further, MAC is in the process of defining BLSS kit requirements.

Delaying full implementation of the kit support concept for all MHE could seriously affect airlift operations during wartime. Spare parts may not be available for equipment essential to the airlift mission.

Recommendations

We recommend that the Secretary of the Air Force direct the Commander, MAC, to

- identify the current inventory of war reserve equipment and establish WRSKs tailored to the requirements of equipment at each storing base,
- establish WRSKs for all in-service elevator loaders,
- comply with Air Force regulations to annually review kit status, and
- complete efforts to establish appropriate BLSS kit components.

Agency Comments and Our Evaluation

DOD agreed with our recommendations and stated that it has or will initiate actions to address them.

Photographs of Materials Handling Equipment

Figure I.1: 10,000-Pound Standard Forklift

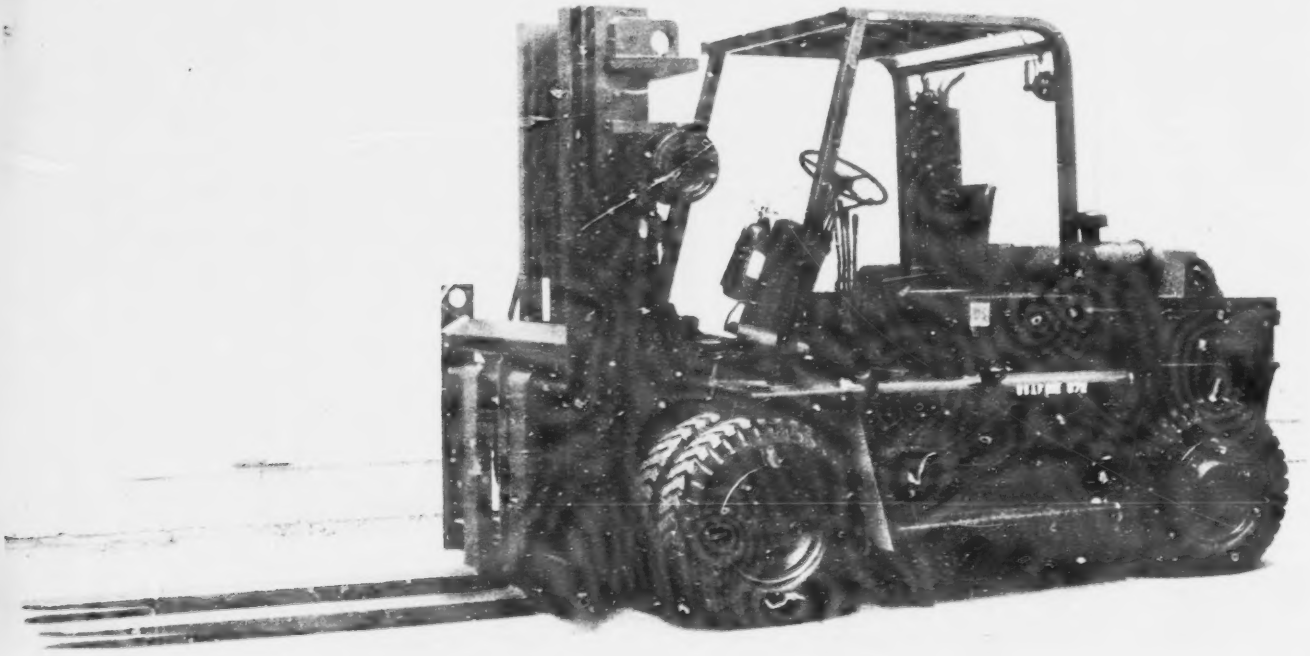

Figure I.2: 25,000-Pound Cargo Loader

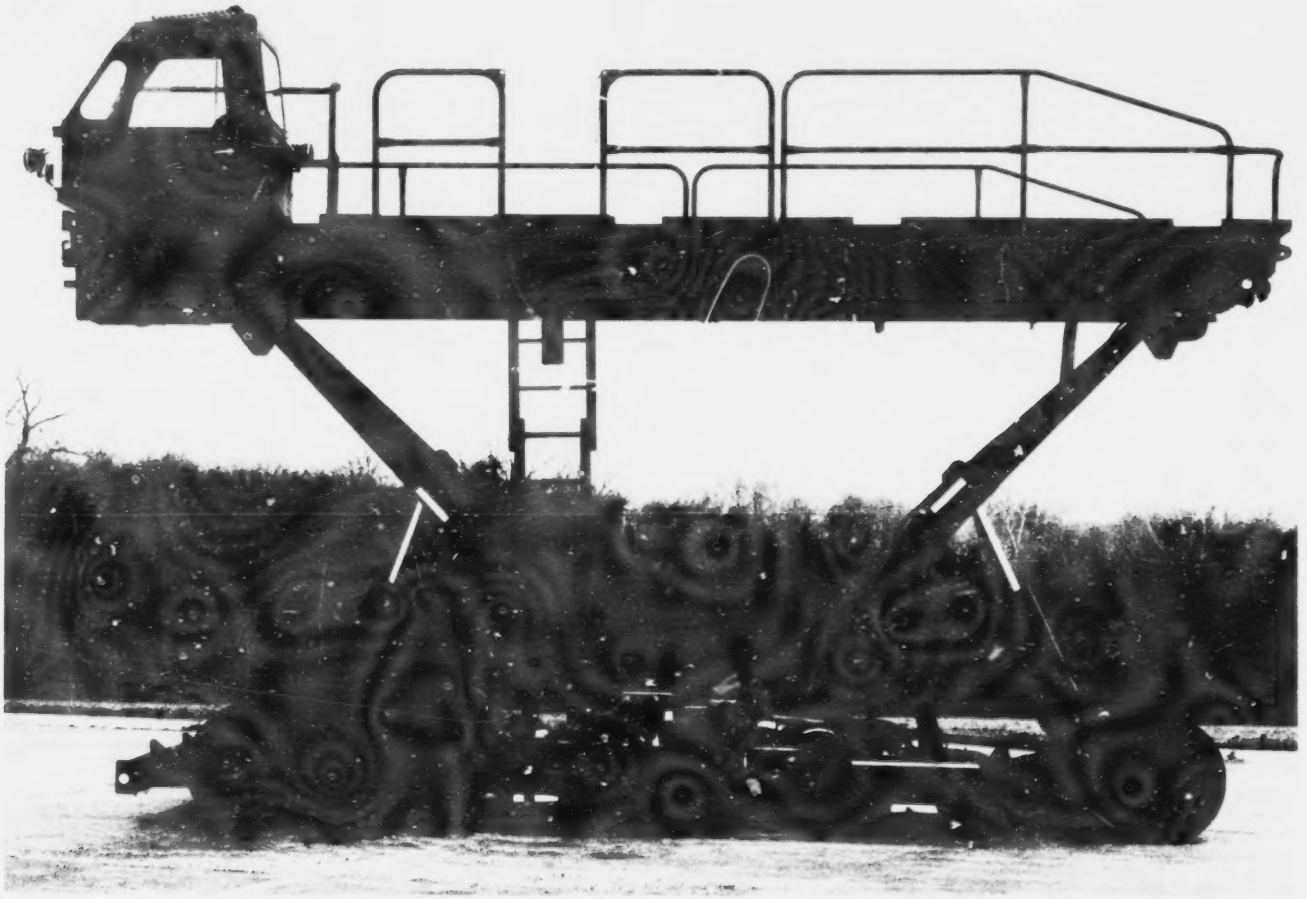

Figure I.3: 40,000-Pound Cargo Loader

Figure I.4: Wilson Elevator Loader

Comments From the Assistant Secretary of Defense, Acquisition and Logistics

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON D.C. 20301-8000

ACQUISITION AND LOGISTICS
L/TP

28 AUG 1986

Mr. Frank C. Conahan
Director, National Security and
International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the July 14, 1986, General Accounting Office (GAO) draft report, "MILITARY AIRLIFT: Improving Management of Aircraft Loading Operations" (GAO Code 392113 - OSD Case No 7062). The Department concurs in principle with the conclusions of the draft report. Specific comments relating to the findings and recommendations in the draft report are provided at the enclosure.

The Department recognizes the importance of material handling equipment (MHE) as an integral part of mobility and deployment operations. Availability of operational MHE and the spare parts to support wartime operating tempos is indispensible to the success of airlift operations. This applies equally to organic military airlift as well as civil airlift augmentation. The Department appreciates the efforts of the GAO to address this important subject and for the thoughtful recommendations contained in the draft report. The DoD will take early implementing action to remedy the shortfalls cited by the GAO and to improve both the viability and management oversight of this essential program.

Sincerely,

James P. Wade, Jr.

Enclosure

(GAO CODE 392113) - OSD CASE 7062

"MILITARY AIRLIFT - IMPROVING MANAGEMENT OF AIRCRAFT LOADING OPERATIONS

* * * * *

RESPONSE TO THE GAO DRAFT REPORT

FINDING A: Operational Impact of Unreliable Loaders. The GAO reported that the Military Airlift Command (MAC) provides aircraft, personnel, and equipment for airlifting combat troops and supplies to war zones. The Air Force purchases, operates, and maintains materiel handling equipment (MHE) to load aircraft. The GAO further reported that the Air Force plans to purchase $219 million in equipment over the next 5 years to meet projected shortages and replace old equipment. The GAO found that the Wilson Machine Company, the low bidder on an advertised solicitation, was awarded a $2.7 million contract in June 1982, for 39 elevator loaders--in April 1983, Warner Robins Air Logistics Center exercised a contract option clause and purchased an additional 20 Wilson loaders, increasing the contract cost to almost $4.5 million. The GAO further found, however, that since entering MAC's inventory in January 1984, the Wilson elevator loaders have continuously had operational, safety, and maintenance problems. The GAO also found that in-commission rates have been far below the 90 percent standard for full combat readiness, and malfunctions with the loaders are causing severe problems in MAC's ability to meet even its peacetime requirements. The GAO finally found that the loaders malfunctioned during a special test in November 1985, and this test also showed, that the Wilson loaders could not lift the 40,000 pounds required by the contract. The GAO noted that in December 1985, Warner Robins Air Logistics Center directed the MAC and the other major commands to take all Wilson loaders out of service until the problems could be resolved. The GAO noted that wide-body aircraft provide over one-quarter of wartime cargo airlift capability and the Wilson loaders represent over one-half of MAC's wide-body elevator loader capability. The GAO concluded that the unreliability of 59 Wilson elevator loaders, significantly reduces MAC's capability to support wartime operations of wide-body aircraft. (pp. 12-15, 22, GAO Draft Report)

Now on pp. 12-13, 18

DoD Response: Concur. The Department agrees with the GAO conclusion that the unreliability of Wilson elevator loaders significantly reduces DoD capacity to perform wartime operations with wide-body aircraft. At the time these loaders were procured, the Department had a wartime requirement for 101 elevator loaders, 42 of which were on hand. The Wilson loader purchase was intended to satisfy that shortfall. Procurement of the Wilson loaders was also intended to relieve the in-place Cochran loaders from increased stress associated with expanded

peacetime airlift operations. The Department has recently reexamined its wartime elevator loader requirement and, as a result of that analysis, has established a wartime need for 114 vice 101 loaders. Consequently, the wartime shortfall is exacerbated by the unreliability and out-of-service status of the Wilson loaders.

FINDING B: Effective Reliability Testing Could Have Prevented Operational Problems. The GAO found the Defense Contract Administration Services Management Area (DCASMA) conducted a pre-award survey in April 1982, and rated Wilson satisfactory. According to the GAO, a Warner Robins contract official, however, had advised the DCASMA not to recommend an award to Wilson, because, among other things, the specification called for a commercial item that the company should have previously built and delivered and Wilson had not previously built a commercial 40,000 pound elevator loader. The GAO further found that acceptance testing was minimal; i.e., the tests were designed to see if the loaders initially functioned when assembled as the loader was considered a commercially available item. The GAO also found that had operational testing been performed on the loaders prior to granting production approval, it would have disclosed the major defects found after the loaders were placed in service. The GAO finally found other factors contributed to problems with loaders; shortcomings in the storage of elevator loaders and delays in ordering spare parts. The GAO noted that specific corrective actions are in progress: (1) in September 1985, Warner Robins changed its test policy to require operational testing for a specific period of time regardless of whether the item is bought as commercially available or newly designed and, (2) Wilson has issued various service bulletins to correct some of its loader problems and has replaced defective parts under warranty. The GAO concluded that the change in test policy requiring operational testing of all MHE equipment before contract acceptance is a positive step in preventing similar situations from recurring. (pp. 15-20, 22-23, GAO Draft Report)

Now on pp. 14-16, 18

DoD Response: Concur. The purpose of any first article/first production testing is to determine whether the manufacturer produced an item which meets all of the specifications and requirements of the contract. The purpose of this testing requirement is not to determine whether an article can function under sustained operating conditions but rather to determine the structured capacity and capability of the article. The Department of the Air Force has amended this testing policy to afford additional review of "high risk" equipment. The Department believes that additional testing would enable detection of deficiencies to facilitate correction early in the production schedule. While this additive testing would not apply to wholly commercial items, such as trucks, busses, sedans, etc., such a program would increase the likelihood that operational problems encountered in the Wilson loaders would have been detected and remedied.

FINDING C: The MAC Does Not Summarize Information Needed to Effectively Monitor MHE Readiness. The GAO reported that data on the performance of MHE are provided monthly to the MAC by each aerial port and mobile aerial port squadron. These data show the average monthly MHE availability at each port or squadron. Although the MAC receives detail data, the GAO found that it does not normally summarize these data by specific types of equipment, which can be misleading by not disclosing problems with specific types of equipment. The GAO further reported that MAC personnel who monitor equipment reliability depend on material deficiency reports from users to identify the causes of specific failures. While numerous reports on a piece of equipment may indicate a widespread problem, the GAO also found that the reports do not show how long the equipment was out of service, and because some users sometimes neglect to prepare material deficiency reports, these reports may not disclose the full extent of operational problems. The GAO concluded that having information on reliability by type of equipment would have been useful to MAC in isolating problem equipment and determining their operational impact, and in identifying needed corrective actions. The GAO further concluded that the MAC would have been able to more quickly determine the extent of problems with he Wilson loaders if it routinely summarized reliability statistics for each type of MHE. (pp. 12, 21, 23, GAO Draft Report)

Now on p. 17

DoD Response: Partially concur. The Department agrees that management attention should be focused on equipment experiencing the type of systemic problems as found with the Wilson loader. However, the Department does not agree with the conclusion to collect, collate, and maintain reliability data on each piece of equipment. The Air Force Vehicle Information Management System (VIMS) is the most comprehensive vehicle management tool within the Department, and, most likely, within the entire Federal Government. This system affords installation and command managers visibility over a fleet in excess of 118,000 vehicles. This information is collected monthly and summarized by general category of vehicles, e.g. forklifts, pick-up trucks, wide-body loaders, etc. This system permits the Air Force to monitor overall performance of its vehicle fleet with the option to perform selective analysis by specific make, model, and manufacturer if undesirable trends develop. With Air Force vehicle in-commission rates averaging above 90%, the system is capable of detecting deviations where one vehicle category falls below standard. This in turn focuses management attention on the specific vehicle type(s) accounting for lowered in-commission rates. The Wilson loader problem is a case in point. As a result of the problems with the Wilson loader, the MAC expanded its vehicle in-commission reporting requirement to include a category of "problem vehicles." This data identifies vehicles by type and hours out-of-commission and facilitates timely and thorough trend analyses. The Department of the Air Force will continue to use the vehicle Material Deficiency Report (MDR) as an additional principal management tool to identify and report problem equipment. The MDR, which, unlike VIMS, is a manual

See p. 17

reporting system, was revised and simplified in 1986 to foster increased use. It should be noted that the MDR was the vehicle through which problems associated with the Wilson loaders were first surfaced. The Department does not believe that a costly management system which tracks every vehicle's performance by make, model, type, and year of manufacture is necessary. Given the normal high in-commission rates for Air Force vehicles, such a detailed, burdensome system would consume scarce resources with very limited payback.

FINDING D: Loaders Available From Commercial Air Carriers Could Reduce Military Shortfalls. The GAO reported that the MAC plans to augment military airlift capability in wartime by using aircraft and equipment owned by commercial carriers participating in the Civil Reserve Air Fleet (CRAF) Program. Noting the MAC regulations allow MHE to be acquired from commercial sources only when Government-owned MHE is unavailable or inadequate, the GAO found that MAC's war plans do not include using carrier-owned MHE to support specific locations. The GAO concluded, therefore, that MAC regulations on not using CRAF MHE have a direct impact on its procurement requirements, because only Air Force-owned MHE is considered. The GAO found that ten CRAF carriers have loaders to support wide-body aircraft in a contingency. The GAO noted that officials from five CRAF carriers having elevator loaders believe that it is realistic for the Air Force to plan to use commercial cargo loaders to meet its contingency requirements, noting that some or all of their cargo loaders could be made available to MAC during an emergency, including needed operational and maintenance support. The GAO also reported that MAC officials advised, however, that the location of these CRAF assets and its inability to put them into service expeditiously, limits their viability. The GAO disagreed, pointing out that CRAF elevator loaders are positioned near aerial ports having wartime requirements to support widebody aircraft and are transported to these ports be either truck or aircraft. Although Air Force regulations treat CRAF carrier-owned equipment as a secondary alternative, the GAO further concluded the policy should be revised to consider CRAF equipment as a primary source. The GAO further concluded that MAC's war plans should specifically provide for using cargo loaders owned by CRAF carriers and this should eliminate the need for $1.3 million planned for additional elevator loaders. The GAO noted that MAC has agreed to further explore the use of CRAF carrier equipment to satisfy its current shortfalls, while acknowledging that it may be able to refine its procurement requirements. (pp. 24-28, GAO Draft Report)

Now on pp. 20-22

DoD Response: Partially concur. The Department agrees with the GAO conclusion to fully consider the availability of CRAF-carrier owned MHE in contingency planning. Over the past few years the Department has improved its dialogue with CRAF carriers. For example, an annual CRAF Mobilization Representatives Conference is held at the MAC headquarters. The topic of CRAF-carrier owned MHE will be on the agenda during the September 23-25, 1986,

meeting. From this meeting and subsequent deliberations, the MAC will make adjustments to contingency plans where dedicated CRAF-carrier owned MHE support can be assured. However, the Department does not agree that CRAF-carrier owned MHE can substitute on a one-for-one basis with Government owned equipment. The Air Force must possess adequate MHE to meet both peace and wartime workloads. Much carrier owned MHE is not readily deployable or designed for rapid movement from one airfield to another. Dedication of the equipment to the DoD, while possible in a CRAF Stage III emergency, is unlikely in a scenario where deployment requirements build over time as commercial carriers will need to maintain capability to satisfy demands from non-DoD customers. Additionally, the CRAF commitments change frequently, based on market forces and corporate decision making. For example, American Airlines and Pan American World Airways abandoned all-cargo service. Had the DoD relied on MHE provided by these carriers, it most likely would not have been available when and where needed. During FY 1986 and FY 1987 other major changes in CRAF carrier participation are anticipated. However, in those instances where CRAF-carrier owned equipment can meet Defense needs and can be committed by the carrier, plans will be adjusted to take maximum advantage of existing civil resources.

See p. 21

FINDING E: Lack of Spare Parts Reduces Equipment Sustainability During Wartime. The GAO reported that there are two categories of MHE spare parts kits: base level self sufficiency spares (BLSS) kits and war readiness spares kits (WRSK) which are designed to support the increased maintenance expected from higher utilization and failure rates during wartime. Noting the Air Force decided to preposition MHE as close as possible to the point of intended wartime use, and the GAO found that specific authorizations for war reserve equipment were established at designated storage bases, the MAC, however, did not authorize WRSKs for this equipment. The GAO also found that although MAC officials plan to develop WRSK authorizations for war reserve MHE and elevator loaders, milestones for this effort have not been established. The GAO found that for many years MHE spare parts kits did not receive adequate attention by MAC, therefore, the GAO concluded, kit components are outdated and cannot sustain wartime equipment repair. The GAO further concluded that although MAC is establishing new kits at major aerial ports, it is delaying establishing kits for some war reserve MHE or elevator loaders and is only in the process of defining BLSS kit requirements. The GAO finally concluded that delaying full implementation of the kit support concept, for all MHE, could seriously impact airlift operations during wartime. (pp. 30-35, GAO Draft Report)

Now on pp. 24-26.

DoD Response: Concur. It is the MAC's responsibility to develop and maintain currency of WRSK/BLSS kits for MHE. The Command has identified this as an immediate need and remedial action is now in progress. As a completed action, with the exception of the elevator loaders, MAC updated MHE WRSK authorizations in April 1986, and supply requisitions are now being entered into the

supply system be the affected bases. Comparable action on elevator loaders will be taken subsequent to the Worldwide MHE Requirements Conference, which is currently scheduled to be held at the MAC headquarters in September 1986.

RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of the Air Force direct MAC to develop reliability statistics to monitor the operational status of each type of material handling equipment. (P. 23, GAO Draft Report)

Now on p. 18.

DoD Response: Nonconcur. The Department of the Air Force manages over 118,000 vehicles of different makes, models, and types. The Air Force has a comprehensive vehicle management system which provides both operational and maintenance data on this vehicle inventory. This system is the finest within the Department and, most likely, within the entire Federal Government. The Department believes that this system is fully adequate to manage the vehicle fleet and that the recommended enhancement suggested by the GAO would have limited value, would increase personnel and related costs, and would not contribute to improved oversight and management of the Air Force vehicle program. The Air Force system provides in-commission status by vehicle category, e.g. elevator loader, forklift, 40K loader, etc., on a monthly basis. If adverse trends begin to appear, an in-depth inquiry, by specific vehicle type, can be made at each installation on a case-by-case basis. Given the high average vehicle in-commission rates and the hundreds of vehicle types within the Air Force, this method of selective analysis has proven to be an effective method in monitoring this large and complex vehicle fleet. In addition to this automated system, the manual Material Deficiency Report (MDR) is intended to identify and report specific problems. The MDR system documented problems with the Wilson loader from its initial delivery to field units.

See pp. 18-19.

RECOMMENDATION 2: The GAO recommended that the Secretary of the Air Force direct MAC to evaluate existing procedures, practices and oversight for storing war reserve MHE in light of the storage problems with the Wilson loaders. (p. 23, GAO Draft Report)

Now on p. 18.

DoD Response: Partially concur. The procedures provided in Air Force technical orders are adequate for vehicle storage; however in the case of the Wilson loader, the normal storage procedures were not employed. The loaders were shipped from the factory unassembled and temporarily stored in the original shipping containers. Normally, vehicles are inspected and put into service upon receipt; however, this did not occur as the technical data for assembly had not been received from the manufacturer and a hold had been placed on operating the Wilson loaders pending resolution of several outstanding warranty issues.

See p. 19.

Further, the loaders themselves were ostensibly designed for operation in an all-weather environment and the water found in the systems indicate that the were improperly prepared for shipment from the factory. Now that the loaders have been assembled, they have been stored in the highest level of protection pending resolution of the outstanding issues noted above. The Department does not agree that the storage procedures themselves require change.

RECOMMENDATION 3: The GAO recommended that the Secretary of the Air Force revise Air Force regulations to require consideration of CRAF owned elevator loaders in formulating operational war plans and determining procurement requirements. (p. 28, GAO Draft Report)

Now on p. 22.

DoD Response: Concur. The availability of adequate MHE in the private sector which could be committed to the DoD through the CRAF program merits full consideration. In those cases where the DoD can be assured of dedicated use of this equipment to meet military requirements, plans should incorporate this resource. A CRAF Mobilization Representatives Conference is scheduled to be held at MAC headquarters on September 23-25, 1986. Availability and commitment of CRAF-carrier owned MHE will be an agenda topic. Subsequent deliberations with the commercial carriers will develop this topic and war plans will be accordingly adjusted.

RECOMMENDATION 4: The GAO recommended that the Secretary of the Air Force direct MAC to develop and maintain an updated CRAF elevator loader inventory. (pp. 28-29, GAO Draft Report)

Now on p. 22.

DoD Response: Concur. Information on the inventory and location of private sector elevator loaders is available in a commercial publication and used by the MAC. For example, the Boeing Commercial Aircraft Company produces "The 747 Cargo Handling Airport Equipment Availability." The MAC subscribes to this report which is updated annually and which provides worldwide listings of equipment availability by region, airport, and provider. This data is available to MAC's operations and transportation personnel and useful during contingency operations. It should further serve as a reference to obtain commitments of CRAF carrier MHE for contingency planning purposes.

RECOMMENDATION 5: The GAO recommended that the Secretary of the Air Force direct MAC to obtain contractual commitments from CRAF carriers for use of elevator loaders during a contingency. (pp. 28-29, GAO Draft Report)

Now on p. 22.

DoD Response: Concur. Within the present CRAF contract arrangement, MAC may request that a carrier support DoD operations using equipment available to that airline. However, the fluctuating inventory of carrier MHE and the lack of commonality with Government standard loading parameters and techniques are factors which must be considered before relying on private sector resources. (See response to Recommendation 3.)

Now on p. 22

RECOMMENDATION 6: The GAO recommended tnat the Secretary of the Air Force direct MAC to refine its procurement objectives and determine the reduction in war reserve requirements achievable by considering CRAF-carrier elevator loaders. (pp. 28-29, GAO Draft Report)

DoD Response: Concur. Private sector resources which are available and that meet DoD requirements will be fully considered in deliberate planning and factored into procurement decisions. (See response to Recommendation 3.)

Now on p. 22

RECOMMENDATION 7: The GAO recommended that the Secretary of the Air Force defer procurement of additional elevator loaders until MAC refines its procurement objectives. (p. 29, GAO Draft Report)

DoD Response: Partially concur. Prior to the publication of the GAO Draft Report, the Air Force authorized the MAC to procure additional elevator loaders. The Air Force took this action to alleviate a serious shortfall in strategic aircraft on-load and off-load capability caused by the failure of the Wilson loader. Inoperability of the Wilson loaders reduced the Air Force's wide-body loading capability by more than 50% which seriously impacted its ability to meet both peacetime and wartime requirements. At the time the decision was made, the Wilson loaders were expected to be out of service for a minimum of 18 months. An Air Force cost analysis demonstrated that purchase of additional equipment was more cost effective that long term lease. However, any future procurement of elevator loaders will be made in light of the availability of CRAF-carrier owned MHE and other pertinent factors reflected in the GAO draft report

Now on p. 26

RECOMMENDATION 8: The GAO recommended that the Secretary of the Air Force direct MAC to identify the current inventory of war reserve equipment and establish WRSK tailored to the requirements of equipment at each storing base. (p. 35, GAO Draft Report)

DoD Response: Concur. The MAC is in the process of developing a new WRSK kit concept which provides requisite spares based on the model, design, and year of equipment manufacture. This concept resulted from an extensive review of the Command's MHE WRSK policies. Each of the new WRSK kits will be structured to support vehicles without home station resupply for up to 60 days. These spare parts requirements will be included in the next budget cycle for inclusion in the Air Force FY 1989-1993 Program Objective Memorandum.

Now on p. 26

RECOMMENDATION 9: The GAO recommended that the Secretary of the Air Force direct MAC to establish WRSK authorizations for all elevator loaders. (p. 35. GAO Draft Report)

DoD Response: Concur. The MAC is currently developing WRSK/BLSS requirements for all Command elevator loaders. This requirements analysis will be completed prior to the end of CY1986.

RECOMMENDATION 10: The GAO recommended that the Secretary of the Air Force direct MAC to comply with Air Force regulations to annually review kit status. (p. 35, GAO Draft Report)

Now on p. 26

DoD Response: Concur. MAC has initiated a top-to-bottom MHE WRSK/BLSS requirements analysis. Each MAC base level supply activity has been directed to revalidate WRSK/BLSS contents in preparation for a March 1987 MAC command-wide review. On an annual basis, the Air Force will conduct a WRSK/BLSS requirements and authorizations review which will require all commands possessing airlift related MHE WRSK/BLSS to review and justify the number of kits, their location, and the number and types of vehicles supported. Through these actions, management at all levels will have improved visibility and control over the important MHE support program.

RECOMMENDATION 11: The GAO recommended that the Secretary of the Air Force direct MAC to complete efforts to establish appropriate BLSS kit components. (p. 35, GAO Draft Report)

Now on p. 26

DoD Position: Concur. The MAC is taking action to validate its Command BLSS requirements. Estimated completion is October 1, 1986. Requirements will be passed to Warner Robins Air Logistics Center for input into the Air Force Logistics Command computational system.

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